

REMARKS

All independent claims have been amended as has claim 54. These amendments are supported by, e.g., FIGS. 1-5 and associated text and in particular, paragraphs [0048]-[0052] of the U.S. Patent Publication no. 2004/0268123 corresponding to the instant application. No new matter is added. Claim 69 is new and is supported at least by paragraphs [0030]-[0031] of U.S. Patent Publication no. 2004/0268123. No new matter is added. Claims 1, 2, 4, 11-15, 18, 42, 43, 50-56, 59, 60, 63, 64, and 66-69 are pending. The amendments to the claims are meant to further prosecution of the instant application. In no way are these amendments to be construed to mean that the Applicant agrees with the Examiner's rejections of these claims and Applicant reserves the right to add these or broader claims at a later date and prosecute the added claims to issuance.

35 U.S.C. §103(a) Rejections

The Examiner rejected claims 1, 2, 15, 18, 42, 43, 54-56, 59, 60, 62-64, and 66-68 under 35 U.S.C. §103(a) as being unpatentable over Gupta (U.S. Patent no. 6,389,532) in view of Mitreuter (U.S. Patent Publication no. 2003/033375) and in further view of Song, U.S. Patent Publication no. 2003/0065947.

Applicant has similarly amended the independent claims 1, 18, 42, 59, 63, 64, 66-68. Claim 1 is illustrative (claim 1 is shown in its currently amended form):

A method, comprising:

for packets comprising binding update messages:

generating validity information for a-the packets, wherein the validity information for a packet comprises all necessary information required to perform a validity check of the packet, the validity information comprising algorithm information to be used to perform the validity check of the packet and algorithm initialization information, the validity information further comprising public key information of a sending node comprising an address in a database of a server from which the public key of the sending node can be

obtained, where no pre-established security association is needed to verify the packet; and

generating ~~a~~ packet headers, comprising the validity information; and

for packets not comprising the binding update messages,
generating a packet header without the validity information; and

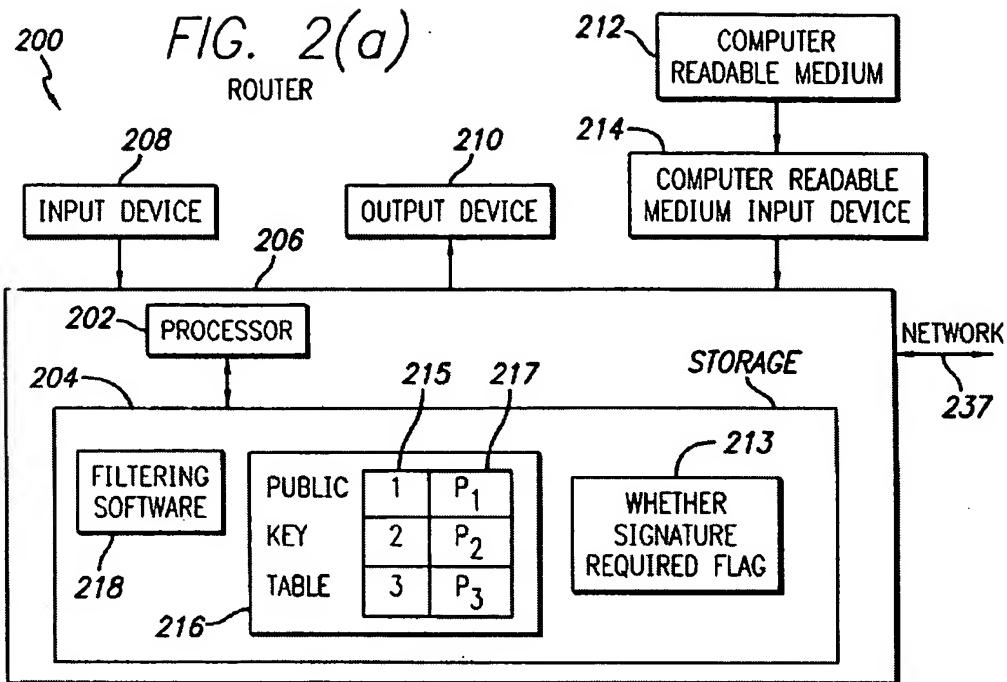
~~sending the packets including the corresponding packet header headers from a first network node to a second receiving network node.~~

This amendment is supported, e.g., by paragraphs [0048]-[0052] of the U.S. Patent Publication no. 2004/0268123 corresponding to the instant application.

In broad, non-limiting terms, the independent claims have been amended so that only certain packets have validity information added to them. In particular, the packets with validity information added to them are packets comprising binding update messages. Packets without validity information added to them (i.e., those packets not comprising binding update messages) are processed without validity checks of the validity information. See, e.g., paragraphs [0048]-[0052] of the U.S. Patent Publication no. 2004/0268123 corresponding to the instant application.

It is respectfully submitted that the alleged combination of Gupta, Mitreuter, and Song does not disclose all elements of the independent claims. In particular, independent claim 1 recites the subject matter of “for packets comprising binding update messages: generating validity information for the packets ...; generating a packet header, comprising the validity information; for packets not comprising the binding update messages, generating a packet header without the validity information; and sending packets including the corresponding packet headers to a receiving network node”, and this subject matter is not disclosed or implied by the alleged combination of Gupta, Mitreuter, and Song.

For instance, in Gupta, block 706 (of FIG. 7) is used to determine if a signature is required. However, in Gupta, it is clear that signatures are required on a router-by-router (and not packet-by-packet) basis, as evidenced by FIG. 2(a) of Gupta:



See also in Gupta:

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indexes 215 are shown in public key table 216. Storage 204 also contains a flag 213 which determines whether this router requires a signature in the multicast packet.

Thus, the flag 213 in Gupta is for the particular router 200.

Regarding Mitreuter, this appears to require all IP messages of clients have data added to messages that identify the IP messages as coming from a user:

[0025] Upon request, the Internet Service Provider supplies IP messages of clients with data which makes it possible to identify the Internet user's IP packets. The Internet Service Provider guarantees the integrity of this data with cryptographic means.

[0026] The difference to the above-mentioned methods therefore lies in the fact that the Internet user does no longer himself initiate his identification, but instead the Internet Service Provider takes over this task. With the help of the invention, the effort in identifying IP packets of Internet users is reduced.

Regarding Song, this reference does not appear to be related to generating or using validity information in packet headers. Therefore, Applicant cannot find in Song at least the subject matter in claim 1 of “for packets comprising binding update messages: generating validity information for the packets ...; generating a packet header, comprising the validity information; for packets not comprising the binding update messages, generating a packet header without the validity information; and sending packets including the corresponding packet headers to a receiving network node.”

The combination of Gupta, Mitreuter, and Song therefore does not disclose that only certain packets have validity information added to them. Thus, the combination does not disclose or imply at least the subject matter in claim 1 of “for packets comprising binding update messages: generating validity information for the packets ...; generating a packet header, comprising the validity information; for packets not comprising the binding update messages, generating a packet header without the validity information; and sending packets including the corresponding packet headers to a receiving network node.” Claim 1 is patentable over this combination. It is noted that Applicant is not acquiescing to the Examiner’s combination of Gupta, Mitreuter, and Song. Instead, this combination need not be examined at this time.

Independent claims 18, 42, and 66 contain similar subject matter to the subject matter in independent claim 1 and are therefore patentable over the alleged combination of Gupta, Mitreuter, and Song.

Regarding claim 55, this claim recites the following (shown in amended form):

An apparatus, comprising:

a receiver configured to receive packets from a sending network node; and

a checker at least one processor configured to:

perform a validity checks of a paeket received packets comprising binding update messages and corresponding validity information contained in headers of the received packets by referring to the validity information contained in a header of the packet,

wherein the validity information comprises all necessary information required to perform the a validity check of the a received packet and no pre-established security association is needed to verify the received packet, and the validity information comprises algorithm information to be used to perform the validity check of the received packet, wherein the algorithm information comprises values to initialize an algorithm to be used to perform the validity check of the received packet, the validity information further comprising public key information of a sending node comprising an address in a database of a server from which the public key of the sending node can be obtained,

processing the received packets comprising the binding update messages at least according to the validity checks, and

processing received packets not comprising the binding update messages without validity checks.

As shown above, the combination of Gupta, Mitreuter, and Song does not disclose that only certain packets have validity information added to them. Thus, the combination does not disclose or imply at least the subject matter in claim 55 of “perform validity checks of received packets comprising binding update messages and corresponding validity information contained in headers of the received packets by referring to the validity information … processing the received packets comprising the binding update messages at least according to the validity checks, and processing received packets not comprising the binding update messages without validity checks.” Claim 55 is therefore patentable over the combination of Gupta, Mitreuter, and Song. Because independent claims 63 and 67 recite similar subject matter, these claims are also patentable.

Regarding claim 59, this claim recites the following (shown in currently amended form):

An apparatus, comprising:

a receiver configured to receive packets from a sending network node,

a transmitter configured to forward packets received from-a the sending network node to a receiving network node; and,

a checker-at least one processor configured to-to:

perform a-validity checks of a-packet
received packets comprising binding update messages and corresponding validity information
contained in headers of the received packets by referring to the validity information contained in-a header of the packet,

wherein the validity information comprises all necessary information required to perform a validity check of the-a received packet and no pre-established security association is needed to verify the received packet, and the validity information comprises algorithm information to be used to perform the validity check of the received packet, wherein the algorithm information comprises values to initialize an algorithm to be used to perform the validity check of the received packet, the validity information further comprising public key information of a sending node comprising an address in a database of a server from which the public key of the sending node can be obtained,

causing received packets comprising the binding update messages and meeting the validity checks to be forwarded to the receiving network node, and

causing received packets not comprising the binding update messages and corresponding validity information to be forwarded to the receiving network node without validity checks.

As shown above, the combination of Gupta, Mitreuter, and Song does not disclose that only certain packets have validity information added to them. Thus, the combination does not disclose or imply at least the subject matter in claim 59 of “perform validity checks of received packets comprising binding update messages and corresponding validity information contained in headers of the received packets by referring to the validity

information ... causing received packets comprising the binding update messages and meeting the validity checks to be forwarded to the receiving network node, and causing received packets not comprising the binding update messages and corresponding validity information to be forwarded to the receiving network node without validity checks.” Thus, claim 59 is patentable over the combination of Gupta, Mitreuter, and Song. Because claim 59 is patentable, independent claims 64 and 68, which recite similar subject matter, are also patentable.

The Examiner rejected claims 4, 12-14, and 51-53 over Gupta in view of Mitreuter and Song and in further view of Naudus (U.S. Patent No. 6,202,081).

Because independent claims 1, 18, 42, and 59 are patentable, their dependent claims 2, 4, 11-15, 43, 50-54, and 60 are patentable for at least the same reasons.

New Claim 69

New claim 69 recites the following: “The method according to claim 1, wherein generating further comprises generating validity information further comprising a pointer comprising an address of a database within a server to access a certificate used to verify validity of the packet.” Claim 69 is new and is supported at least by paragraphs [0030]-[0031] of U.S. Patent Publication no. 2004/0268123. No new matter is added.

This claim further distinguishes over the cited references.

Conclusion

Based on the foregoing arguments, it should be apparent that all remaining claims are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections. The Examiner is invited to call the undersigned attorney for any issues.

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Art Unit: 2431

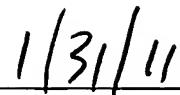


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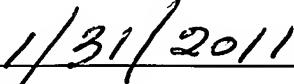
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